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TITLE : MANUFACTURE OF QUARTZ GLASS

ABSTRACT : PURPOSE: To manufacture a quartz glass having excellent flatness and suitable as an IC mask, etc., at a low cost, by manufacturing a quartz glass plate by a sol-gel process, placing the plate in a furnace maintained at a specific temperature, placing a flat heat-resistant plate on the quartz glass plate, and pressing the quartz plate.

CONSTITUTION: A quartz glass plate is manufactured e.g. by hydrolyzing ethyl silicate with an aqueous solution of hydrochloric acid, dispersing fine silica powder homogeneously in the hydrolyzed solution, adjusting the dispersion to about 4~6pH, putting the resultant sol in a container having flat bottom, and gelatinizing, drying under shrinkage, and sintering the product. The obtained quartz glass plate is put into a furnace heated at 1,200~1,400°C, a heat-resistant flat plate is placed on the quartz glass plate, and the quartz glass plate is pressed to obtain the objective flat quartz glass plate having excellent flatness. The heat-resistant plate is preferably the one made of alumina, silicon carbide, silicon nitride, zirconia, etc.

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